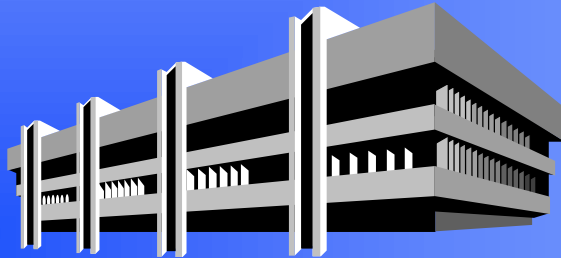


# ASBESTOS MANAGEMENT



SD 1995 (Rev 01)

- The purpose of this presentation is to discuss asbestos and how it relates to buildings and tenants.
- Since most of us spend a large part of our work day in a facility, we need to understand how asbestos containing materials in these buildings can affect our lives.

# OBJECTIVES

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- **Define asbestos**
- **Explain health effects**
- **Discuss management methods**

- The objectives of this presentation are to;
- define asbestos,
- explain the negative health effects on the human body,
- and discuss the various methods of managing asbestos in buildings.

# DEFINITION

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- **A fibrous form of mineral found naturally occurring in rock formations.**

- Asbestos is a generic term used to describe several types of natural mineral fibers mined from the earth.
- It's known for it's ability to be very durable and incombustible.
- History tells us that the beneficial heat resistant qualities of asbestos were known to the Greeks and Romans where it appears to have been used in lamp wicks and textiles.
- Asbestos has been mined and used in the manufacture of numerous goods since the early 1900's. The majority of asbestos has been and still is mined in Canada.
- The negative health effects of asbestos were not widely known until the 1940's.

# HEALTH EFFECTS

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- Mesothelioma
- Lung cancer
- Asbestosis

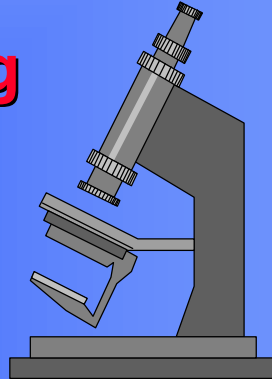


- The greatest known health hazard of asbestos exposure is fiber inhalation. This is due to the tendency, that these sharp microscopic fibers have, to become trapped and embedded in the respiratory system.
- The three illnesses most commonly associated with asbestos are; mesothelioma, asbestosis, and lung cancer.
- Mesothelioma is a rare and almost always fatal cancer of the chest and abdominal lining. It's only known cause is asbestos.
- Asbestosis is a noncancerous chronic and debilitating lung disease related to lengthy and high exposure levels of asbestos.
- Lung cancer has also been associated with asbestos. Additionally, studies have shown that smokers who have had an occupational exposure to asbestos have a significantly higher chance of developing lung cancer.
- Asbestos related illnesses generally have a latency period of approximately 15 to 35 years from the first major exposure. (Most of these asbestos related health problems occur in workers whose jobs exposed them to asbestos in the air over long periods of time without the worker protection which is now required).
- It is important to remember, however, that there is no known health risk from exposure to undamaged/ undisturbed asbestos containing material (ACM).

# MONITORING

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- Bulk sampling
- Air sampling



- Asbestos exposure is normally monitored by the combination of both bulk sampling and air sampling.
- Both sampling methods look for asbestos fibers with a microscope since the fibers are so fine that they are invisible to the naked eye. Additionally, since asbestos has neither a taste nor a smell, strict controls have been established for managing ACM. (It is important to remember that ACM cannot be identified by the naked eye.)
- The difference between the two methods is that bulk samples are collected by hand and air samples are collected by drawing air through a filter with a small portable pump. (These are the little pumps tenants see and hear each year as GSA checks the building as part of the JFB Asbestos Management Plan.)
- Bulk sampling is most frequently used to determine if a suspected material contains asbestos where as air sampling is used to determine the amount of contamination in the air.

# REGULATION

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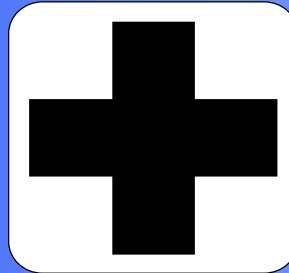
- **Federal (EPA & OSHA)**
- **State (DOE & L&I)**
- **Local (LAPCA & L&I)**

- Asbestos work is very highly regulated by all levels of government.
- Regulation can be categorized into environmental safety and worker safety.
- At the federal level, the Environmental Protection Agency regulates the environmental concerns and the Occupational Safety and Health Administration (OSHA) regulates the worker concerns.
- At The state level, the Department of Ecology regulates the environmental concerns and the Department of Labor and Industries (L&I) regulates the worker concerns.
- Finally down at the local level, the local air pollution control agency (Puget Sound Air Pollution Control Agency (PASAPCA) for this part of Washington state) regulates the environmental concerns and finally the State Department of Labor and Industries (L&I) regulates the worker concerns.

# **SAFETY**

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- **Environmental**
- **Worker**

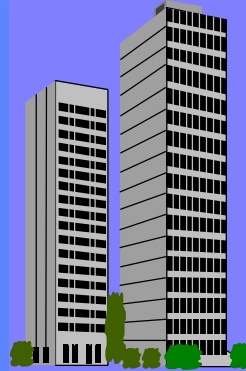


- Environmental safety concerns itself with the well being of the environment, the general public, and more specifically, building tenants. This protection is provided by the incorporation of such devices as; work area enclosures, air filtration, and waste disposal control. All of these controls work together to control asbestos emissions.
- Worker safety concerns itself with the well being of the asbestos workers themselves. This protection is provided through; specialized training, government regulated worker certification, and worker protective equipment.

# BUILDING USES

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- Fire proofing
- Insulation
- Adhesives
- Roofing
- Tile



- Asbestos is combined with other materials, during manufacture, to produce usable finished products such as building materials.
- The building areas in which ACM is most likely be found is: fire proofing, pipe and duct insulation, adhesives, roofing, floor and ceiling tile. (Fireproofing is the greatest concern in the JFB.)
- To a lesser degree, asbestos may also be found in paints and interior wallboard finishes.
- In addition to the materials listed on the slide, residential applications of ACM are most likely to be found in; water supply pipes, exterior siding, and the acoustical “popcorn” finish commonly used on ceilings.
- Asbestos was effectively banned from use in manufacturing of most building materials sold in the U.S. by 1978. However, materials already manufactured and in inventory could still be sold. By now it is safe to assume that building materials sold in the U.S. do not contain asbestos. (Many materials which historically contained asbestos will include wording in the label that they are asbestos free).
- One of the few, but very important products still manufactured, sold, and consumed in the U.S. is automotive brake shoes. You see, asbestos is a very efficient material and a suitable substitute has yet to be discovered.



# MANAGEMENT METHODS

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- **Encapsulation**
- **Maintenance**
- **Enclosure**
- **Abatement**

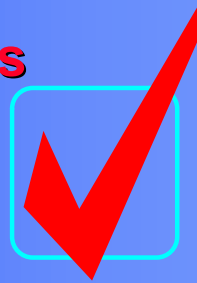


- The four most common methods of managing ACM in buildings are; encapsulation, enclosure, maintenance in place, and abatement.
- Maintenance in place is generally considered the most cost effective method. This amounts to inspection, protection, and any minor repair required to ensure it remains intact. ACM which is intact and undisturbed does not pose a health risk. Only when it becomes friable (easily crumbled) and airborne is there a hazard to humans.
- Encapsulation is the application of a glue-like liquid onto the surface of ACM. When dry, the encapsulant forms a hard crust to help prevent fiber release.
- Enclosure is the construction of an air tight barrier around ACM to help prevent fiber release.
- Abatement is the most expensive method, but the only one which removes the hazard completely. It consists of completely removing the ACM and application of an encapsulant to “lock down” the cleaned area. Abatement would be a consideration if the ACM has deteriorated or planned building renovations would disturb the material.
- GSA generally utilizes both the maintenance in place and abatement methods to manage asbestos in it's buildings.

# GSA POLICY

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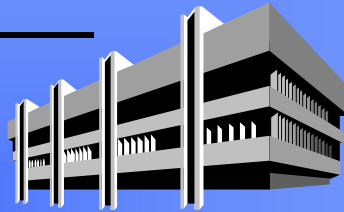
- **Establish Asbestos Management Plan**
- **Establish Asbestos Program Manager**



- GSA has long been known for its proactive position in the management of asbestos.
- All GSA controlled space with ACM has both an Asbestos Management Plan and an official designated as the Asbestos Program Manager.
- GSA Asbestos Management Plans consist of; material labeling, annual air sampling, routine physical inspections of ACM, specific procedures for working with ACM, awareness training for personnel working near ACM, routine physical examinations for personnel working directly with ACM, recordkeeping, and established methods of communication with tenants.

# SUMMARY

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- **Efficient material**
- **Established controls**
- **Manageable risks**

- The key points to remember concerning asbestos in buildings are:
- That asbestos is a very efficient and valuable material, however, it is in the process of being eliminated in buildings.
- Stringent controls have been established at all levels of Government to help insure the safety of both the environment and the public.
- The negative health effects of asbestos do not pose a significant risk if the proper controls are followed.